

IN THE CLAIMS:

1. (Currently Amended) An audio signal processing apparatus capable of changing the tempo of an input audio signal, said apparatus comprising:

magnification designating means ~~capable of~~ for designating a plurality of different magnification increments, said different magnification increments being ~~at least one of~~ $1/n$ and n , wherein n is an integer;

means ~~capable of~~ for automatically detecting beats per minute of the input audio signal or a beat period of the input audio signal, changing said beats per minute or said beat period by applying to the detected beats per minute or the detected beat period a magnification increment designated by the magnification designating means, and changing the tempo of the input audio signal in accordance with the changed beats per minute or the changed beat period.

2. (Original) An audio signal processing apparatus according to claim 1, wherein manual designating means is provided for designating any optional value serving as a BPM and a beat period.

3. (Original) An audio signal processing apparatus according to claim 1, wherein fine adjustment means is provided to effect a fine adjustment on a BPM and a beat period.

4. (Original) An audio signal processing apparatus according to claim 1, wherein indicators are provided to indicate a BPM and a beat period.

5. (Original) An audio signal processing apparatus according to claim 1, wherein mixer is provided such that an audio signal generated by changing the tempo of said audio signal may be mixed with said input audio signal, thereby producing a newly formed audio signal.

6. (Original) An audio signal processing apparatus according to claim 5, wherein mixing ratio adjusting means is provided to adjust a mixing ratio when an audio signal generated by changing the tempo of said audio signal is mixed with said input audio signal, thereby producing a newly formed audio signal.

7. (Currently Amended) An audio signal processing apparatus which changes the tempo of an input audio signal, said apparatus comprising:

a magnification designating device which designates a plurality of different magnification increments, said different magnification increments being ~~at least one of~~ $1/n$ and n , wherein n is an integer;

a device which automatically detects beats per minute of the input audio signal or a beat period of the input audio signal, changes said beats per minute or said beat period by applying to the detected beats per minute or the detected beat period a magnification increment designated by the magnification designating device, and

changes the tempo of the input audio signal in accordance with the changed beats per minute or the changed beat period.

8. (Previously Presented) An audio signal processing apparatus according to claim 1, wherein the input audio signal comprises an analog signal, the analog signal is converted into a digital signal, a signal level changing period of the digital signal is detected, and a plurality of level changing periods are automatically counted so as to automatically measure a BPM of the input audio signal.

9. (Currently Amended) An audio signal as recited in claim 11, wherein said plurality of different magnification increments include $1/4$, $\pm 1/2$, $3/4$, $1/1$, $2/1$, and $4/1$.

10. (Currently Amended) An audio signal as recited in claim 14, wherein said plurality of different magnification increments include $1/4$, $\pm 1/2$, $3/4$, $1/1$, $2/1$, and $4/1$.

11. (Previously Presented) An audio signal as recited in Claim 1, wherein said plurality of different magnification increments are even multiples or even divisions of the detected beats per minute of the input audio signal.

12. (Previously Presented) An audio signal as recited in Claim 11, wherein said plurality of different magnification increments automatically produce the changed tempo such that the changed tempo is synchronizable with the input audio signal.

13. (Previously Presented) An audio signal as recited in Claim 1, wherein said beats per minute or said beat period is changed automatically based on the automatically detected beats per minute or a beat period of the input audio signal and the magnification increment designated.

14. (Previously Presented) An audio signal as recited in Claim 7, wherein said plurality of different magnification increments are even multiples or even divisions of the detected beats per minute of the input audio signal.

15. (Previously Presented) An audio signal as recited in Claim 14, wherein said plurality of different magnification increments automatically produce the changed tempo such that the changed tempo is synchronizable with the input audio signal.

16. (Previously Presented) An audio signal as recited in Claim 7, wherein said beats per minute or said beat period is changed automatically based on the automatically detected beats per minute or a beat period of the input audio signal and the magnification increment designated.

17. (New) An audio signal processing apparatus capable of changing the tempo of an input audio signal, said apparatus comprising:

magnification designating means for designating a plurality of different multiplication factors; and

means for automatically detecting beats per minute of the input audio signal or a beat period of the input audio signal, changing said beats per minute or said beat period by multiplying the detected beats per minute or the detected beat period by a multiplication factor designated by the magnification designating means, and changing the tempo of the input audio signal in accordance with the changed beats per minute or the changed beat period.

18. (New) An audio signal processing apparatus according to claim 17, wherein said different multiplication factors being at least one of $1/n$ and n , wherein n is an integer not equal to 1

19. (New) An audio signal processing apparatus according to claim 17, further comprising:

manual designating means for designating any optional value serving as a BPM and a beat period.

20. (New) An audio signal processing apparatus according to claim 17, further comprising:

fine adjustment means for effecting a fine adjustment on a BPM and a beat period.

21. (New) An audio signal processing apparatus according to claim 17, further comprising:

indicators indicating a BPM and a beat period.

22. (New) An audio signal processing apparatus according to claim 17, further comprising:

mixer means for mixing an audio signal generated by changing the tempo of said audio signal with said input audio signal, thereby producing a newly formed audio signal.

23. (New) An audio signal processing apparatus according to claim 22, further comprising:

mixing ratio adjusting means for adjusting a mixing ratio when an audio signal generated by changing the tempo of said audio signal is mixed with said input audio signal, thereby producing a newly formed audio signal.

24. (New) An audio signal processing apparatus which changes the tempo of an input audio signal, said apparatus comprising:

a magnification designating device which designates a plurality of different multiplication factors; and

a device which automatically detects beats per minute of the input audio signal or a beat period of the input audio signal, changes said beats per minute or said beat period by multiplying the detected beats per minute or the detected beat period by a

multiplication factor designated by the magnification designating device, and changes the tempo of the input audio signal in accordance with the changed beats per minute or the changed beat period.

25. (New) An audio signal processing apparatus according to claim 24, wherein said different multiplication factor is at least one of $1/n$ and n , wherein n is an integer not equal to 1

26. (New) An audio signal processing apparatus according to claim 17, wherein the input audio signal comprises an analog signal, the analog signal is converted into a digital signal, a signal level changing period of the digital signal is detected, and a plurality of level changing periods are automatically counted so as to automatically measure a BPM of the input audio signal.

27. (New) An audio signal as recited in claim 29, wherein said plurality of different multiplication factors include $1/4$, $1/2$, $3/4$, $2/1$, and $4/1$.

28. (New) An audio signal as recited in claim 32, wherein said plurality of different multiplication factors include $1/4$, $1/2$, $3/4$, $2/1$, and $4/1$.

29. (New) An audio signal as recited in claim 17, wherein said plurality of different multiplication factors are even multiples or even divisions of the detected beats per minute of the input audio signal.

30. (New) An audio signal as recited in claim 29, wherein said plurality of different multiplication factors automatically produce the changed tempo such that the changed tempo is synchronizable with the input audio signal.

31. (New) An audio signal as recited in claim 17, wherein said beats per minute or said beat period is changed automatically based on the automatically detected beats per minute or a beat period of the input audio signal and the multiplication factor designated.

32. (New) An audio signal as recited in claim 24, wherein said plurality of different multiplication factors are even multiples or even divisions of the detected beats per minute of the input audio signal.

33. (New) An audio signal as recited in claim 32, wherein said plurality of different multiplication factors automatically produce the changed tempo such that the changed tempo is synchronizable with the input audio signal.

34. (New) An audio signal as recited in claim 24, wherein said beats per minute or said beat period is changed automatically based on the automatically detected beats per minute or a beat period of the input audio signal and the multiplication factor designated.

35. (New) An audio signal processing apparatus capable of changing the tempo of an input audio signal, said apparatus comprising:

magnification designating means for designating a plurality of different magnification increments, said different magnification increments being at least $1/n$, wherein n is an integer not equal to 1;

means for automatically detecting beats per minute of the input audio signal or a beat period of the input audio signal, changing said beats per minute or said beat period by applying to the detected beats per minute or the detected beat period a magnification increment designated by the magnification designating means, and changing the tempo of the input audio signal in accordance with the changed beats per minute or the changed beat period.

36. (New) An audio signal processing apparatus according to claim 35, further comprising:

a manual designating means for designating any optional value serving as a BPM and a beat period.

37. (New) An audio signal processing apparatus according to claim 35, further comprising:

a fine adjustment means for effecting a fine adjustment on a BPM and a beat period.

38. (New) An audio signal processing apparatus according to claim 35, further comprising:

indicators to indicate a BPM and a beat period.

39. (New) An audio signal processing apparatus according to claim 35, further comprising:

a mixer means for mixing an audio signal generated by changing the tempo of said audio signal with said input audio signal, thereby producing a newly formed audio signal.

40. (New) An audio signal processing apparatus according to claim 39, further comprising:

a mixing ratio adjusting means for adjusting a mixing ratio when an audio signal generated by changing the tempo of said audio signal is mixed with said input audio signal, thereby producing a newly formed audio signal.

41. (New) An audio signal processing apparatus which changes the tempo of an input audio signal, said apparatus comprising:

a magnification designating device which designates a plurality of different magnification increments, said different magnification increments being at least $1/n$, wherein n is an integer not equal to 1;

a device which automatically detects beats per minute of the input audio signal or a beat period of the input audio signal, changes said beats per minute or said beat

period by applying to the detected beats per minute or the detected beat period a magnification increment designated by the magnification designating device, and changes the tempo of the input audio signal in accordance with the changed beats per minute or the changed beat period.

42. (New) An audio signal processing apparatus according to claim 35, wherein the input audio signal comprises an analog signal, the analog signal is converted into a digital signal, a signal level changing period of the digital signal is detected, and a plurality of level changing periods are automatically counted so as to automatically measure a BPM of the input audio signal.

43. (New) An audio signal as recited in claim 34, wherein said plurality of different magnification increments include $1/4$, $1/2$, and $3/4$.

44. (New) An audio signal as recited in claim 48, wherein said plurality of different magnification increments include $1/4$, $1/2$ and $3/4$.

45. (New) An audio signal as recited in claim 35, wherein said plurality of different magnification increments are even divisions of the detected beats per minute of the input audio signal.

46. (New) An audio signal as recited in claim 45, wherein said plurality of different magnification increments automatically produce the changed tempo such that the changed tempo is synchronizable with the input audio signal.

47. (New) An audio signal as recited in claim 35, wherein said beats per minute or said beat period is changed automatically based on the automatically detected beats per minute or a beat period of the input audio signal and the magnification increment designated.

48. (New) An audio signal as recited in claim 41, wherein said plurality of different magnification increments are even divisions of the detected beats per minute of the input audio signal.

49. (New) An audio signal as recited in claim 48, wherein said plurality of different magnification increments automatically produce the changed tempo such that the changed tempo is synchronizable with the input audio signal.

50. (New) An audio signal as recited in claim 41, wherein said beats per minute or said beat period is changed automatically based on the automatically detected beats per minute or a beat period of the input audio signal and the magnification increment designated.